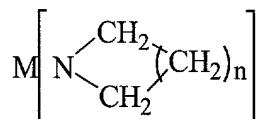
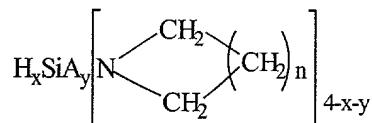


ABSTRACT OF THE DISCLOSURE

A CVD Method of forming gate dielectric thin films on a substrate using metalloamide



compounds of the formula  $M(\text{NR}^1\text{R}^2)_x$ , or compounds of the formula  $H_x\text{SiA}_y(\text{NR}^1\text{R}^2)_{4-x-y}$ , wherein M is Zr, Hf, Y, La, Lanthanide series elements, Ta, Ti, or Al; N is nitrogen; each of  $\text{R}^1$  and  $\text{R}^2$  is same or different and is independently selected from H, aryl, perfluoroaryl,  $C_1\text{-}C_8$  alkyl,  $C_1\text{-}C_8$  perfluoroalkyl, alkylsilyl; and x is the oxidation state on metal M; and an aminosilane compound of the formula



wherein H is hydrogen; x is from 0 to 3; Si is silicon; A is a halogen; Y is from 0 to 3; N is nitrogen; each of  $\text{R}^1$  and  $\text{R}^2$  is same or different and is independently selected from the group consisting of H, aryl, perfluoroaryl,  $C_1\text{-}C_8$  alkyl, and  $C_1\text{-}C_8$  perfluoroalkyl; and n is from 1-6. By comparison with the standard  $\text{SiO}_2$  gate dielectric materials, these gate dielectric materials provide low levels of carbon and halide impurity.